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THE PHILOSOPHER LEIBNITZ.



LEIBNITZ'S HOUSE IN HANOVER.

THE above cut represents a house, which, however remarkable for its form and appearance, derives its chief interest from having been the residence of Godfrey William Leibnitz, an eminent natural philosopher and mathematician of the seventeenth century.

Leibnitz was born at Leipsic, in the year 1646. His father, secretary of the University, dying when Godfrey was only six years old, the latter was placed at school, where he distinguished himself by the ardour with which he studied the classical writers; and he performed his task with such ease and quickness that he used to have time to assist his less precocious school-fellows in the preparation of their lessons. At the age of fifteen he

went to the University of Leipsic, afterwards to that of Jena, and again to Leipsic. Here he studied philosophy and mathematics, and also became so familiar with the writings of Plato, Aristotle, and other Greek philosophers, that he used to ramble about the woods for a whole day at a time, pondering on what he had read, and endeavouring to reconcile the discordant doctrines of his favourite writers.

His advancement in the study of law was as rapid as that in classical learning, insomuch that at the age of twenty he was made Doctor of Laws in the University of Altorf, and was offered the Professorship of Law in the same university. Leibnitz declined the latter office,

and went to Nuremburg, where he became secretary to a society of alchemists. The reader is aware that the chemistry of those days consisted principally in attempts to discover the means of converting baser metals into gold, and of effecting other wonders which are now known to be unattainable. Leibnitz, however, did not remain long in this capacity; for having gained the favour of an influential man at Mayence, he was advised to apply himself to the study of history and jurisprudence, with a view to qualify himself for some creditable office at Frankfurt. Here he soon gave another instance of the versatility of his talents, by writing an admirable treatise on the best method of teaching and learning jurisprudence. This work, and another, written about the same time, caused him to be appointed Councillor of the Chamber of Revision, in the chancery of the electorate of Mayence.

While he filled this last-mentioned office, his comprehensive mind was employed on subjects so very diverse that none but such a genius as his could have had any success in them all. He wrote a treatise on the doctrine of the Trinity, against a Polish writer who had impugned that doctrine. He wrote two treatises on mechanics, which astonished the philosophers of that age, by the boldness and originality of the ideas developed in them; and he also planned a new *Encyclopædia of General Knowledge*.

At this time the military successes of Louis the Fourteenth had made his capital the centre to which distinguished men from various countries resorted; and Leibnitz, who had a strong desire to visit Paris, was enabled to do so as a companion to the son of his patron. Here his genius took a new turn, by being applied to the study of mathematics, a science to which he had hitherto paid but a small share of attention. Huyghens, who had written a valuable treatise on the oscillation of pendulums, was then at Paris, and an intimacy arose between him and Leibnitz, which led the latter to attend to numerous questions in natural philosophy. At this time also he gave an honourable proof of the steadiness with which he adhered to protestant religious principles; for the Academy of Sciences at Paris, appreciating his distinguished talents, offered him a seat in their body, provided he would profess the Roman Catholic religion: this he declined to do.

His patron dying in 1673, Leibnitz came to England, where he was received with much distinction by the philosophers, who corresponded and conversed with him on many subjects of science. But his prospects received a sudden check by the death of the elector of Mayence, and the consequent discontinuance of the pension which Leibnitz had received. The Duke of Brunswick now testified his respect for the philosopher, by granting him an office and a pension, with liberty to devote as much of his time as he pleased to study. Leibnitz then devoted upwards of a year to the unremitting study of mathematics, and then proceeded to take his residence at Hanover, the capital of the Duke of Brunswick's territory, where he wrote a treatise on the national law of the Germanic empire. When the duke died, his successor (afterwards King George the First of England) continued to Leibnitz the favours which had already been awarded him, and also directed him to write a history of the house of Brunswick. This work he commenced on such an immense scale that the main body of the history has never been published: he spent three years in traversing Germany and Italy, for the collection of materials, and the published portions throw great light on the early history of the Germanic tribes in general, though circumstances prevented him from completing that portion which related to Brunswick.

Leibnitz was a man of amiable mind; and being distressed at the sufferings which the Huguenots, or French protestants, experienced, he and Bossuet, a

learned French Catholic prelate, entered into a correspondence, with a view of trying whether the differences between the two forms of faith might not be reconciled. In this correspondence Leibnitz displayed as extensive a knowledge of theology as he had previously shown of other subjects: but the attempt failed in its object.

Leibnitz having been chosen a fellow of the Royal Society of London, and seeing how much such a society tended to the advancement of science, he recommended the king of Prussia to found a similar society at Berlin, which was accordingly done in 1701, Leibnitz himself being appointed president, with liberty to reside either there or elsewhere. The Czar of Russia and the Emperor of Germany also consulted him on subjects which related to the progress of science, and he became looked upon as one of the most distinguished men in Europe. In his correspondence and literary productions he employed either the Latin or the French language, because those were the two which were most likely to be understood by the learned men to whom his writings were addressed: the consequence was that his mother tongue, the German, became so much neglected by him, that the few pieces which he wrote therein were in very inferior style.

A very profound and difficult branch of the mathematics, called the differential calculus, the nature of which can hardly be explained to general readers, was invented both by Sir Isaac Newton and by Leibnitz, each one proceeding in a path different from the other. Long controversies were carried on between the philosophers of England and France, as to which of the inventors deserved most honour; but in modern times the acrimony which distinguished this controversy has died away, and men now know how to do honour to both those great mathematicians, without striving to place one on a higher level than the other.

The personal or domestic character of Leibnitz does not yield those points of interest which so frequently arise from the contemplation of a distinguished man in the bosom of his family. Leibnitz was never married. One of his biographers says:—"At the age of fifty he had some thoughts of forming a matrimonial connexion; but as the lady he wished to espouse desired time to consider his proposal, Leibnitz also made his own reflections on the subject, and unluckily came to the conclusion that, though marriage is a good thing, a wise man ought to consider of it all his life." Leibnitz, although of a strong constitution, gradually sank under the immense mental exertions to which he subjected himself. He died on the 14th of November, 1716, at the age of seventy. In person he was of a middle stature, and had a sweet expression of countenance, blended with a studious air. He was short-sighted, but his vision continued excellent, even to his last moments, enabling him to read the smallest print, and to write in a small fine character. He was of a thin habit, but of a vigorous temperament; drank little, supped plentifully, and retired to rest immediately afterwards,—a plan which, in most cases, would be evidently detrimental to health. He remained in bed only a few hours, and sometimes he would even sleep in his chair, and on awaking would proceed to his studies, whatever hour it might be. When deeply immersed in study, he was known to have scarcely left his chair for days together.

There have been few men who have approached so near as Leibnitz to the rank of a universal genius. Theology, classical learning, jurisprudence, history, mathematics, natural philosophy,—all occupied his attention in turn, and all received the stamp of his powerful mind, and made him the wonder of his age. But the reader must not infer that the possession of universal genius is necessary to advance a man to an eminent position among his fellow-men. A clear and steady mind, devoted assiduously to *one* subject, will often produce results more valuable to society than if it were directed to

several; and the reason why such is the case will readily be understood. An attention to one subject concentrates and systemizes the knowledge which we possess on that subject, and renders it more available and valuable. It has been observed of Leibnitz, that though it is difficult to name any department of human knowledge which has not profited by his labours, or received fresh illustration from his genius, yet his reputation would perhaps have been more solid and permanent had he less ambitiously grasped the whole circle of human science. He has been excelled in theology, in classical learning, in jurisprudence, in history, in mathematics, and in natural philosophy, by others who have devoted their whole attention to one or other of these subjects; whereas he might probably have placed himself on a pre-eminent position in some one of them, had he more especially devoted himself to it. While, therefore, we admire the wonderful range of his genius, and respect his memory for the large accession which he made to the sum of human knowledge, we must not think any the more meanly of those members of society,—whether in past or present ages,—in our own or any other country,—who, with a less gigantic grasp of intellect, have devoted their powers to one particular department of study, making others subordinate to it

THE world around us, with all its changes—the shortness of our stay *here*—the uncertainty of all things with which we are conversant in this transitory life, from the seed that falleth into the ground to die and burst into new life with the return of spring, to the varied scenes of that busy theatre on which man himself, lord of created nature, acts his little day—all these things teach us plainly that this is but a life of trial,—that this vain earth is not our rest.—DAUBENEY.

CURIOUS anecdotes are related of the effect of music upon animals. Thorville has given the following amusing account of his experiments. "While a man was playing on a trumpet, I made my observations on a cat, a dog, a horse, an ass, a hind, some cows, small birds, and a cock and hens, who were in a yard under the window. The cat was not the least affected; the horse stopped short from time to time, raising his head up now and then, as if he were feeding on grass; the dog continued for above an hour seated on his hind-legs, looking stedfastly at the player; the ass did not discover the least indication of his being touched, eating his thistles peaceably; the hind lifted up her large wide ears, and seemed very attentive; the cows stopt a little, and, after gazing at us, went forward; some little birds that were in an aviary, and others on trees and bushes, almost tore their little throats with singing; but the cock who minded only his hens, and the hens who were solely employed in scraping a neighbouring dunghill, did not show in any manner, that the trumpet afforded them pleasure."

That dogs have an ear for music cannot be doubted: Steibelt had one which evidently knew one piece of music from the other; and a modern composer had a pug dog that frisked merrily about the room, when a lively piece was played; but when a slow melody was performed, particularly Dussek's Opera, 15, he would seat himself down by the piano and prick up his ears with intense attention, until the player came to the forty-eighth bar; but as the discord was struck he would yell most piteously, and with drooping tail seek refuge from the unpleasant sound under the chairs or tables.

Eastcot relates that a hare left her retreat to listen to some choristers, who were singing on the banks of the Mersey, retiring when they ceased singing, and reappearing as they recommenced their strains. Bossuet asserts, that an officer, confined in the Bastille, drew forth mice and spiders to beguile his solitude with his flute; and a mountebank in Paris, had taught rats to dance on the rope in perfect time. Chateaubriand states as a positive fact, that he has seen the rattle-snake, in Upper Canada, appeased by a musician; and the concert given in Paris to two elephants in the Jardin des Plantes, leaves no doubt in regard to the effect of harmony on the brute creation. Every instrument seemed to operate distinctly as the several modes of pieces were slow or lively, until the excitement of these intelligent creatures had been carried to such an extent that further experiments were deemed dangerous.—MILLINGEN.

SILK FROM SPIDERS.

THE extensive use which is made of silk goods, and the value they have acquired in all civilized countries, have led to various experiments amongst ingenious persons, for the purpose of ascertaining whether a substance or substances might not be obtained from other sources, which should answer the same purpose as that to which the production of the silk caterpillar is at present so widely applied.

At the beginning of the last century a method was discovered in France of obtaining silk from the nests of some species of spiders. It is well known that besides the ordinary web of spiders, there is a small silky bag spun by particular species, for the protection of their eggs. These bags may often be found in the corners of windows, under the eaves of houses, in cellars and vaults, in hollow trees, and in similar protected situations, where neither wind nor rain can reach them. They are much stronger and more durable in their texture than the webs formed to entrap the spider's prey, and in shape they resemble the silkworm's cocoon when it is prepared for the distaff. When first formed, these spiders' bags are of a gray colour, but by exposure to the air and dust they soon acquire a blackish hue.

It was from the bags thus formed by spiders around their eggs that silk was procured, at the time above stated, by a M. Bon, whose dissertation on the mode of obtaining and preparing the silk is extremely interesting. An abstract from this dissertation, together with the observations made by M. Reaumur, and other celebrated naturalists, on the means which the spider possesses of furnishing the material in question, may not be unacceptable to our readers.

The method of classing spiders is usually according to their different colours, whether black, brown, yellow, &c., or sometimes by the number and arrangement of their eyes, some spiders possessing as many as ten of these organs,—others eight,—and others again six. M. Bon notices only two kinds as silk-producing spiders, and distinguishes them from each other, as having either long or short legs, the latter producing the finest quality of raw silk.

The spider is provided with fine papillæ, or small nipples, placed in the hinder part of its body, which are like so many wire-drawing irons, to form and mould a glutinous liquor, with which the insect is provided, and which, on being drawn out through these papillæ, and exposed to the air, immediately dries, and forms silk. Each of these papillæ consists of a number of smaller ones, so minute as not to be discernible, and only made evident by the effects produced. Several distinct threads issue from each, the number of which, on account of their extreme fineness, cannot be counted with any accuracy. The principal papillæ are five in number; but these being made up of innumerable smaller ones, and each of these smaller ones emitting a beautifully fine thread, the total number of threads uniting to form the filament used by the spider is astonishingly great. By this beautiful arrangement the threads can be applied in a greater or less number, according to the strength required in the spider's work; and when all these threads unite and form one, as they do at the distance of about the tenth of an inch from the body of the insect, the tenacity of the principal thread is increased, and its strength is greater than if it were not thus composed of many individual filaments.

In proceeding to notice M. Bon's attempt, and in giving his opinions on the subject, it is necessary to premise that that gentleman, delighted with his discovery, and determined to pursue it under all difficulties, was unconsciously led to exaggerate the advantages connected with it, and to make comparisons between the silkworm and the spider, as silk-producing animals, which were not wholly founded on fact.

A quantity of the spiders' bags were first collected

by M. Bon, and then treated in the following manner. Twelve or thirteen ounces of the bags were beaten with the hand or by a stick, until they were entirely freed from dust. They were next washed in warm water, which was continually changed, until it no longer became clouded or discoloured by the bags under process. After this they were steeped in a large quantity of water, wherein soap, salt-petre, and gum-arabic had been dissolved. The whole was then set to boil over a gentle fire, during three hours, after which the bags were rinsed in clear warm water, to discharge the soap. They were then set out to dry, during several days, and the carding operation was then performed, with cards differing from the usual sort only in being much finer. Thus was a peculiar ash-coloured silk obtained, which was spun without difficulty, which took readily all kinds of dyes, and might have been wrought into any kind of silken fabric. M. Bon had stockings and gloves made from it, some of which he presented to the Royal Academy of Paris, and others to the Royal Society of London.

The silk was affirmed by M. Bon to be stronger and finer than the common sort, and according to his statement, spiders were much more productive than silkworms, and there were besides the following advantages relating to them: spiders hatch spontaneously, without any care, in the months of August and September, the old spiders dying soon after they have laid their eggs: the young ones live for ten or twelve months without food, and continue in their bags without growing, until the hot weather, by putting their viscid juices in motion, induces them to come forth, spin, and run about in search of food.

The only obstacle, therefore, to establishing a considerable manufacture from these spider bags, that is, the difficulty of obtaining them in sufficient abundance, was attempted to be obviated by breeding young spiders in convenient apartments on a large scale. M. Bon commissioned a number of persons to collect and bring to him all the short-legged spiders they could possibly obtain. These, as he received them, he inclosed in paper coffins, or in pots covered with papers, which papers, as well as the coffins, were pricked over their surface with pinholes, to admit air to the prisoners. The spiders were duly fed with flies, and after some time it was found on inspection that the greater part of them had formed their nests. It was contended that these nests afforded much more silk in proportion to their weight than those of the silkworm, in proof of which it was asserted that thirteen ounces yielded nearly four ounces of pure silk, two ounces of which were sufficient to make a pair of stockings; whereas, stockings made of common silk weighed seven or eight ounces. It had been objected by some persons that the spider was venomous, and that this evil quality extended to the silk obtained from it. M. Bon, in answer to this prejudice, affirmed that he had several times been bitten by spiders, when no injury had followed; and that the silk, so far from being pernicious, had been found useful in stanching and healing wounds, its natural gluten acting as a kind of balsam. Willing to extract every possible good from his favourite pursuit, he subjected the spider-silk to chemical analysis, and obtained from it a volatile salt, preparing which in the same manner used for the once celebrated *Gutta Anglicana*, he produced drops, which, as he believed, possessed yet greater efficacy: he called this preparation *Montpelier drops*, and prescribed its use in all lethargic diseases.

M. Bon's establishment for the rearing of spiders, at length engrossed a considerable share of public attention, and the subject being considered worthy a serious investigation, M. Reaumur was deputed by the Royal Academy of Paris to inquire into the merits of this new silken material. From the patient examinations of this eminent naturalist, it appeared that there were many serious objections to this plan; and such as were likely

to prove quite insurmountable. In the first place, the natural fierceness of spiders renders them unfit to be bred together. On distributing four or five thousand of these insects into cells or companies of from fifty to one or two hundred, it was found that the larger spiders quickly killed and ate the smaller, so that in a short space of time, the cells were depopulated, scarcely more than one or two being found in each cell. In the next place, the silk of the spider is inferior to that of the silkworm both in lustre and strength; and produces less material in proportion, than can be made available for the purposes of the manufacture. The filament of the spider's-bag can only support a weight of thirty-six grains, while that of the silkworm will sustain a weight of one hundred and fifty grains. Thus four or five threads of the spider must be brought together to equal one thread of the silkworm, and as it is impossible that these should be applied so accurately over each other as not to leave little vacant spaces between them, the light is not equally reflected, and the lustre of the material is consequently inferior to that in which a solid thread is used. A third great disadvantage of the spider's silk is, that it cannot be wound off the ball like that of the silkworm, but must necessarily be carded. By this latter process, its evenness, which contributes so materially to its lustre, is destroyed. That the silk articles produced from this material are really deficient in that glossy appearance which constitutes the principal beauty of silk, is fully confirmed by the testimony of M. le Hire, who, when the stockings of M. Bon were presented to the Royal Academy, immediately noticed their want of lustre. The last objection we shall notice against the raising of spiders, was one containing a calculation considered to be an exaggerated one, and it has been regretted that M. Reaumur should have taken extreme cases, if not actually improbable ones, to confute a system so little likely to advance itself as that of M. Bon. The advantages of the culture of silk from silkworms when compared with its production from spiders, must be too apparent to every reflecting person to render it necessary to dwell long on them, or in any way to exaggerate them. M. Reaumur's comparison is to this effect. The largest cocoons weigh four, and the smaller three grains each; spider-bags do not weigh above one grain each; and, after being cleared of their dust, have lost two-thirds of this weight; therefore the work of twelve spiders only equals that of one silkworm; and a pound of spider-silk would require for its production 27,648 insects. But as the bags are wholly the work of the females, who spin them as a deposit for their eggs, it follows that 55,296 spiders must be reared to yield one pound of silk: yet this will only be obtained from the best spiders; those large ones, ordinarily seen in gardens, &c., yielding not more than a twelfth part of the silk of the others. The work of 280 of these would therefore not yield more silk than the produce of one industrious silkworm, and 663,552 of them would only furnish one pound of silk!

An old philosophical gentleman had grown, from experience, very cautious in avoiding ill-natured people. To endeavour to ascertain their disposition he made use of his legs, one of which was remarkably handsome, the other, by some accident, crooked and deformed. If a stranger at the first interview regarded his ugly leg more than his handsome one, he doubted him, but if he spoke of it, and took no notice of his handsome leg, that was sufficient to determine the philosopher to have no further acquaintance with him. Every body has not this two-legged instrument; but every one, with a little attention, may observe signs of this carping, fault-finding disposition, and take the same resolution of avoiding the acquaintance of those infected by it. I therefore advise those querulous, discontented, unhappy people, if they wish to be respected and beloved by others, and happy in themselves, to leave off looking at the ugly leg.—DR. FRANKLIN.

ON CHESS.

VL. ORIGIN OF THE NAMES OF THE CHESS-MEN,
concluded.

THE ROOK. The most ancient form of this piece after the introduction of the game into Europe is uncertain: but it was probably that of an elephant, as appears by Charlemagne's chess-men: and this form, with or without a tower, has been retained by the modern Germans, Russians, and Danes.

The Spaniards, Italians, French and English (as Mr. Madden remarks), in more recent times adopted a tower or castle as an epitome of the figure (in the same manner as they took a horse's head for the knight), and hence arises the strange anomaly of a castle representing the swiftest piece on the chess-board.

The earliest form of the chess rook is preserved on the ancient seals of those families both in England and Germany, who bear chess rooks for their arms, on which subject there is much curious information.

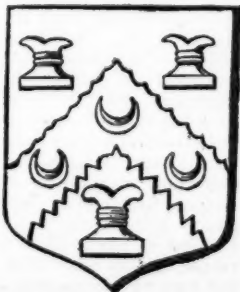
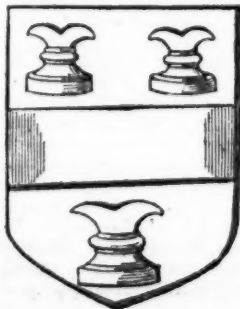
Before the general introduction of cards the game of chess was a great favourite with our ancestors, and we gain some idea of the high esteem in which it was held from the fact that no fewer than twenty-six English families have emblazoned chess-boards and chess-rooks in their arms: it must therefore have been considered a most valuable accomplishment. Gwillim in his *Display of Heraldry* endeavours to show that the arms borne by distinguished persons contain representations of implements or instruments which generally have some relation to the occupation or talents of the first owner of those arms. After speaking of the peculiar implements represented in various arms, he proceeds:—

All these have sundry instruments, which may be (and doubtless have been) borne in coat-armour; but because they are not usual I will refer them to each man's own observation, and will give some instances in the last kind of arts of delight, which we call *Playing*, which comprehendeth either theatrical recreation or other games whatsoever.

And forasmuch as their first institution was good, and that they are in themselves the commendable exercises, either of the body or of wit and invention (and if there be in them any evil, it is not in them *per se*, but *per accidens*, because they are abused by those that do practise and exercise them), I have thought good to annex them unto the same: such are table playing, chess, dice, racket, balloon, &c. The things wherewith these games are practised, are borne in coat-armour, as by these examples following may appear.

After describing the arms of a family whose shield contains three backgammon boards, he proceeds to speak of the arms of the Bodhenam family.

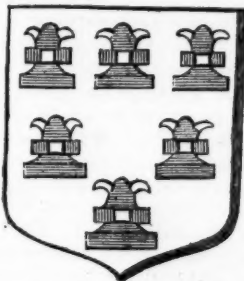
It beareth *azure*, a fess between three chess rooks *or*, by the name of *Bodenham*, and was borne by that great lover and promoter of heraldry, Sir Winfield Bodenham, Knt. It seemeth these were first called rooks, for being the defence of all the rest; and therefore they stand in the uttermost corners of the chess-board, as frontier castles. This is a game of noble exercise for the mind, as requiring much forecast and understanding. King William the Conqueror was much addicted to this delight, and lost great lordships at this play. And indeed, were it not too serious a recreation, and going beyond the nature of games, it might well besem a king, because therein are comprised all the stratagems of war or plots of civil states.



It beareth *argent* on a chevron engrailed between three chess rooks *sable*, as many crescents *or*, by the name of Walter, and was granted to Sir Robert Walter, Lord Mayor of York, 1st of October, 1603, in the first year of the reign of King James the First. The said Sir Robert, upon receiving the king when he came out of Scotland, received the dignity of knighthood.

Azure, a fess *argent*, between three chess rooks *or*, is borne by the name of rooks, and was attested (under an escutcheon of the same painted on vellum) to belong to George Rooks of London, by Sir John Burrough, Garter, 18th of May, 1640.

Arms of the family of ORROOK. *Argent*, a chevron *gules*, between three chess rooks *sable*;—But now he gives *sable* or a chevron *or*, between three mullets *argent*, as many chess rooks on the field.



It beareth *argent*, six chess rooks, three, two, and one *sable*, by the name *Rokwood*, and is borne by Nicholas Rokwood of Kirby, in Suffolk, Esq.

Smith of Methuen: *azure*, a burning cup between two chess rooks in fess *or*.

Many other families have chess rooks and chess boards engrafted on their arms; such as the Rookewoods of Norfolk, the Rooks of Kent; the Rockwoods, Rokewoods, Rokeles, Rockliffes, Rokes, Rockes and Rocolds; but these examples will suffice to show the high esteem in which chess was held until it was to a certain extent superseded by cards. It was never pretended that cards were superior to chess, but they were preferred because unskilful players had a better chance of winning. Before the introduction of cards, chess was in such vogue that both the kings of Spain and Portugal pensioned the great players, whilst they also staked considerable sums on the event of a game. Salvio speaks of three Italians who set out from Naples for the court of Philip the Second, where there was a famous player, and by concealing their strength won very large sums of money. Circumstances of this kind threw discredit on chess, and as it was then the fashion to degrade this noble game by playing for money, persons became afraid to play when they did not know the precise strength of their antagonist, and thus the game went into disuse. Hyde also states that chess was much played both in Wales and Ireland, especially in the latter, where estates often depended on the event of a game.

Augustus, Duke of Brunswick Lunenburg, was an ardent admirer of chess. He published a work on the game at Leipsic, in 1617, under the fictitious name of Gustavus Selenus. He also named one of his towns *Rokcet* with a chess rook for its arms. This town was also obligated to give to every new bishop a silver chess-board with silver men, one set of which was gilt.

The forked head of the rook shown in the preceding figures was supposed by Dr. Hyde to represent the two hunches of the *ruch* or dromedary, under which figure this piece occurs on the Eastern chess-board. In Iceland the piece is called *Hrokr*, a brave warrior or hero, which seems to have been the meaning of the ancient Persian term applied to this piece, viz., *rokh*, a valiant hero seeking after military adventures, in which character, says D'Herbelot, it was introduced into the game. Some have attempted to derive the term rook from *ruch* or *roe*, the fabulous bird of the Eastern tale: while Sir William Jones states that the rook is to be deduced from *roth* of the old

Hindoo game of chess, which was an armed chariot; this, he says, the Persians changed into *rokh*, the etymology of which latter word has given rise to so much discussion.

The modern French term for this piece is *la tour*, and the English sometimes call it the *castle*. In the early Italian treatises it is represented as a castle, although called *il roccho*. This term having been confounded with *rocca*, a fortress, has given rise to much conjecture.

THE PAWN. The pawns appear always to have been so called by the English. In the middle ages the French used a multiplicity of terms, such as *paon*, *paonnet*, *paonnetz*, *paonniers*, *poons*, *poonnes*, and *pionnes*. In an old French romance they are called "garçons." Dr. Hyde derives our pawn from the Spanish *peon* or French *pion*, which he thinks a contraction of *espion*, a spy, or *peton*, a footman. Mr. Douce thinks all the foregoing terms derivable from *pedones*, a barbarous Latin term for foot-soldiers, which in this game were represented by the pawns. By the Italians they were called *pedone*, by the Spaniards *peones*. The Russians and Poles make them also foot-soldiers: but the Germans, Danes, and Swedes have converted them into *peasants* (Bauern).

BEAUTIFULLY is it said in the Bible, that "God has set one thing over against another;"—has balanced the real advantages of different human conditions. Were I called upon to select the condition which I should deem most congenial to happiness, I should find myself in doubt and difficulty. I should have to balance abundance of food on the one hand, against abundance of appetite on the other; the habit superinduced by the necessity of being satisfied with a little, with the habit of being disgusted with the trial of much. There are joys, numerous and vivid, peculiar to the rich; and others, in which none but those in the humbler conditions of life can participate.

In the whole range of the enjoyment of the senses, if there be any advantage, it belongs to the poor. The laws of our being have surrounded human enjoyment with limits, which one condition can no more overleap than another. It is wonderful to see this admirable adjustment, like the universal laws of nature, acting everywhere and upon everything. Even in the physical world, what is granted to one country, is denied to another; and the wanderer who has seen many strange lands and cities, in different climes, only returns to announce, as the sum of his experience and the teaching of years, that light and shadow, comfort and discomfort, pleasure and pain, like air and water, are diffused in nearly equal measure over the whole earth.—F.

TRIFLES.—There are a great many trifles in this life, when considered as a whole; it is a common failing to magnify them into serious matters. They may relate to dress, food, visitings, insignificant purchases, management of children, treatment of, and remarks upon, domestics, and a multitude of little matters on which difference of opinion arises. Now, it may not be of the least possible consequence in the long run, whether the matter be disposed of in one way or another, provided no moral duty be broken; yet a sudden observation, in an ungentle voice, will produce an irritating reply, and this a severe rejoinder, and presently the affair

Resembles Ocean into tempest wrought,
To waft a feather, or to drown a fly.

This ungentleness, when exhibited in parents, has a mournful effect on the character of children. It is wholly useless, and worse than useless, in asserting authority; it can only be classed among those sad mistakes which tend to make this a miserable world. How can any two rational beings, who must live in familiar intercourse, while they do live, so misapprehend the purposes of life, as habitually to torment each other on insignificant trifles! If any one should be unhappily betrayed into an unbecoming expression, silence best becomes those who hear it.

It is with our judgments as our watches: none go just alike, yet each believes his own.—POPE.

THE SILPHIUM, A NORTH AFRICAN PLANT.

THE *Silphium* appears to have been a plant held in much repute by the ancients, from the accounts of it which have been handed down by Pliny and others. When Captain Beechy was travelling in Northern Africa, he met with the plant, or at least one which he supposed to be the *Silphium*, and takes the opportunity of collecting together much useful information respecting it. To his valuable narrative we shall be principally indebted for our account of this plant.

Captain Beechy introduces his remarks concerning *Silphium* in the following manner:—

It may here be proper to mention that, on the third day after our departure from Merge, we observed a plant about three feet in height, very much resembling hemlock, or, more properly speaking, perhaps, the *daucus*, or wild carrot. We were told that it was usually fatal to the camels who ate of it, and that its juice, if applied to the flesh, would fester any part where there was the slightest excoriation. This plant had much more resemblance to the *Silphium* of ancient times (as it is expressed on the coins of Cyrene) than any which we had hitherto seen: although its stem is much more slender than that which is there represented, and the blossoms (for it has several,) more open. In some parts of the route from Merge to Cyrene we lost sight of this plant altogether; while at others we found it in considerable quantities, growing chiefly wherever there was pasture. Immediately about Cyrene we observed it in great abundance; and soon ceased, from its frequent occurrence, to pay any attention to it. It is extremely probable that the plant here mentioned is the *laserpitium* or *silphium* in such repute among the ancients.

It appears that the *silphium* was described by Theophrastus as a plant with a large and thick root; and the stem he tells us, resembled that of the *ferula*, and was of about the same thickness. The leaf resembled that of Parsley! the seed was broad and foliaceous; and the stem annual, like that of the *ferula*. Pliny says, that the first appearance of the *silphium* in Cyrenacia (a district in Northern Africa) was occasioned by a sudden and heavy fall of rain, which completely drenched the ground, and that the *silphium* which grew on the spot extended itself over a space of 4000 stadia, and that its nature was wild, and unadapted to cultivation, retiring towards the desert whenever it was too much attended to. How much of this is true is now not easy to decide.

Silphium appears to have been eaten in various ways. The stem and the root were eaten much in the same way that we eat celery. It was so much esteemed, that it constituted a material part of the commerce of Cyrene. In the time of Pliny, *Silphium* had become so scarce in the market, that a single stalk of it was presented to the Emperor Nero as a present of extraordinary value; and Strabo tells us, that the barbarous tribes who frequented the country about Cyrene had nearly exterminated the plant altogether (in an irruption which they made on some hostile occasion), by pulling it up designedly by the roots; as this was evidently done to injure the inhabitants, it proves that *silphium* was regarded as valuable.

Alexander the Great discovered a "bill of fare," engraved on a brass column in the royal palace of the kings of Persia; and among the good things that formed the daily provision of the monarch's table, was a talent weight, (about sixty-five pounds, according to Captain Beechy,) of the *silphium* plant, and two pounds of the extract or juice of the *silphium*, termed by Pliny *laser*. This *laser* seems also to have been used as a drug, and to have commanded a high price.

The *silphium* appears to have sprung up in the pasture lands; and the sheep are reported to have been so fond of it that whenever they smelt it they would run to the place, and after eating the flower, would scratch up the root and devour it with the same avidity; on this account, as Arrian states, some of the Cyreneans used to drive their sheep away from the parts in which the

silphium was produced; and others surrounded their land with hedges, through which the sheep were not able to pass, when they chanced to approach near the plants. As to the effect which the plant produced on them, it appears to have been somewhat contradictory. According to Pliny, a sign that a sheep had eaten silphium was that he fell asleep, while a goat, under similar circumstances, began sneezing. It appears, generally speaking, to have acted first medicinally upon animals, and afterwards to have fattened them; giving at the same time an excellent flavour to the flesh. Whenever they were ill, it either speedily restored them or else destroyed them altogether; but the first of these effects was most usual.

It is probable, however, (says Captain Beechy,) that it only agreed with those animals which were accustomed to it; at least the plant now observable in the Cyrenaica, which answers to the description of the silphium, is very frequently productive of fatal effects to the animals (particularly the camels) who ate of it, not being accustomed to the soil. One of the reasons advanced by the son of Shekh Hadood, Abou-Buckra, for putting a high price upon his camels at Merge was, that they were going into the country where the silphium was found, which, he said, was very dangerous for them to eat; and the camels which were sent to us from Bengazie, when we were about to leave Grenna, were kept muzzled during the whole time of their stay in those parts where the plant was known to be produced.

As for the effects of silphium upon the human frame, if we are to judge from Hollands' translation of Pliny, made about the year 1600, they were truly marvellous; indeed, at this time, when the qualities of plants were made, by the false science of Astrology, to depend upon planetary influence, it is no wonder that those qualities should be so exaggerated as to appear to us extremely ridiculous.

Of the *laser*, a syrup of silphium, we are told that,

It reduceth those to their natural health who are starven and benumbed with extreme cold. Taken in drinke it allaieth the accidents and grief of the nerves. A great restorative it is with meat, and quickly setteth them on foot who have lien long, and been brought low by sickness. Taken in drinke it doth extinguish the venome left in the bodie, either by poisoned dart or serpent's sting. Being laid, too, with rue or honey, it is excellent for the carbuncle and the biting of dogs. Being incorporate with sal-nitre, and well-wrought withall beforehand, and so applied, it taketh away the hard horns and dead corns arising in the feet. It is an excellent drawer to the outward parts for to fill up the skin and make a bodie fat.

If any one have a hoarseness, let him (if he can,) get some silphium syrup, for it

Presently scowreth the pipes, cleareth the voice againe, and maketh it audible.

But this is not all:—

Taken in a broth or thin supping, it is good for the pleuris, especially if the patient purpose to drinke wine after it. It is given with leekes and vinegre to those that wheeze in their chest, and be short-winded, and have an old cough sticking long by them; likewise with vinegre alone, to such as have supped off and drunke quailed milke which is cluttered within their stomacke.

Let us be cautious how we use silphium when we are afflicted with the tooth-ache:—

I would not give counsell (as many writers doe prescribe), for to put it in the concavities or hole of a decayed tooth, and so to stop up the place close with wax, for fear of that which might ensue thereupon: for I have seen the fearful sequele of that experiment, in a man, who upon the taking of that medicine, threw himself headlong from an high loft and broke his necke; such intolerable pains he sustained of the toothache: and no marvell; for doe but anoint the muffle or nose of a bull therewith, it will set him on a fire and make him horne mad.

Lastly, we may state, for the consolation of those who may be so unfortunate as to have had a flogging, that,

A liniment thereof made with wine and oile is a most familiar and agreeable medicine for the black and blue marks remaining after stripes.

SONG OF BIRDS.

WE rose one morning early, while Hesperus was yet in heaven, and the dew lay heavy on the grass, while a few constellations glittered towards the south, and gray twilight gave unspeakable serenity to the face of nature. The cattle were reposing on the meadows, and as yet no curling smoke appeared among the trees.

We stationed ourselves beside an aged tree, whose branches waved over the dark and troubled waters that gushed beneath them; but as the morning began to break, we went down into the valley, and again ascended a woody path that led to the summit of a neighbouring hill, listening to the song of the wakeful nightingales whose sweet mellifluous notes resounded through the woods. He occupied an acacia, that sprung from out a rugged bank, surmounted with aged beech-trees, which in other days kept off the cold east wind from a stately mansion, of which only broken walls and roofless chambers remained. There he concealed himself where all, beside the gray old ruin, seemed bursting into life and beauty, and there he seemed to warble an unknown drama, intermingled occasionally with the most extravagant bursts of joy, and plaintive notes of recollection. Strange, that such a powerful voice can reside in so small a bird, such perseverance in so minute a creature. At one moment he drew out his note with a long breath, now diverging into a different cadence; now interrupted by an unexpected transition. Sometimes he seemed to murmur within himself, and now again his note was full, deep, and clear.

At length all was still; the rushing of a torrent came from a distance on the ear, and the wood-lark, which also loves the silence of the night, poured forth her music. These sounds had scarcely been heard before, so entirely is the ear entranced, when listening to the full deep melody of the unrivalled nightingale.

But now the morning began to dawn. The stern old ruin was brightened by the first beams of the sun, and threw its long gray shadows over the young green foliage of the beautiful acacia. The lark rose high in air, bearing his song towards the gates of heaven, raising his note as he ascended, till lost in the immensity of space; yet still his warblings came remotely upon the ear, though the little musician was himself unseen. Presently he descended with a swell from the clouds, still sinking by degrees as he approached his nest, the spot where all his affections were centered, and which had prompted all his joy.

How delightful are the feelings which the song of the lark calls forth, whether we include under this general appellation those birds of this species which soar through the clouds, or delight in the shelter of the woods; or as the titlark, in mossy lanes and hedges, though distinguished, rather by the variety, than the sweetness of their notes. The accompaniments of the landscape, the golden break of day, the fluttering from branch to branch, the quivering in the air, and the answering of their young, associate with the song of these wakeful birds, an indescribable feeling of hilarity, which tends to elevate the mind to a state of the highest, and yet most harmless exultation. How often on the breezy common that rises from my native village, have I listened to the cheerful notes of the common lark, when, as Walton well observes, he cheers himself and those that hear him, and then quitting the earth, and singing, he ascends higher in the air, till having ended his heavenly employment, he grows mute, and concerned to think, that he must descend to the dull earth, which he would not touch but from necessity. And now the blackbird and the thrush with their melodious voices bade welcome to the early morning, and bodied forth such enchanting notes, as no instrument, nor sweet sound of warbling voice could imitate. Other wakeful birds were heard in all directions: the laverock, the titlark, the little linnet, and honest robin, who loves mankind both alive and dead. The note of the contented cuckoo was also heard, monotonous, yet cheerful. It is a note, which more than any other of the feathered race calls up the recollections of early youth. Something of melancholy is occasionally blended with it, but it is a melancholy that may lead to a review of our past lives, and the lives of those with whom we have been acquainted. While endeavouring to recall the changes, which a gradual progress from childhood to youth, and from youth to manhood, has occasioned in our friends, we are taught to place less confidence in ourselves, and in those connections which are rapidly being dissolved,

[From the *Progress of Creation*, by MARY ROBERTS.

PERSIAN AMUSEMENTS.

THE every-day life of the King of Persia has many interesting peculiarities for the European reader. Of these, Sir John Malcolm presents an entertaining picture, in his *Sketches of Persia*.

The religious duties of the King of Persia require him to rise early. On leaving the interior apartments of the palace, he is met by officers in waiting, and proceeds to one of his private halls, where all the young princes of the blood attend his morning levee. After this is over, he calls for breakfast. The preparing his meals is superintended by the nauszir, or chief steward of the household. The viands are put into dishes of fine china, with silver covers, and placed in a close tray, which is locked and sealed by the steward. This tray is covered with a rich shawl and carried to the king, when the steward breaks the seal, and places the dishes before him. The chief physician is invariably in attendance at every meal. His presence is deemed necessary, the courtiers say, that he may prescribe an instant remedy, if anything should disagree with the monarch; but this precaution, no doubt, owes its origin to other suspicions. When his public duties are performed, the king usually retires to the harem, where he sometimes indulges in a short repose. Before sunset, he reappears in the outer apartments, and either again attends to public business, or takes a ride. His dinner is brought between eight and nine, with the same precautions and ceremonies as at breakfast. He eats, like his subjects, seated upon a carpet, and the dishes are placed upon a richly embroidered cloth. Some of the former kings used to indulge openly in drinking wine; but none of the reigning family have yet outraged the religious feelings of their subjects, by so flagrant a violation of the laws of Mahomed. Bowls filled with sherbet, made of every species of fruit, furnish the beverage of the royal meals; and there are few countries where more pains are bestowed to gratify the palate with the most delicate viands. After dinner, the king retires to the interior apartment, where it is said, that he is often amused till a late hour, by the singers and dancers of his harem.

The royal family not only attend personally to public business, but are continually practising manly exercises, and ardently engage in field sports. The present king is an expert marksman and excellent horseman; few weeks pass without his partaking of the pleasures of the chase. The king has always a historiographer, and a chief poet. The one writes the annals of his reign; the other, who has a high rank at court, composes odes in praise of the royal munificence. A giant and a dwarf were at one period of the present reign part of the royal establishment; and it is never without a jester, at whose witticisms it is courtly to laugh, even when they are most severe. There is little difference between the office of jester at the modern court of Persia, and that which, some centuries ago, existed at every court in Europe.

In the court, there is always a person who bears the name of "story-teller to his majesty;" and the duties of his office call for a man of no mean acquirements. Though passionately fond of public exhibitions, the Persians have none that deserve the name of theatrical entertainments; but, though strangers to the regular drama, their stories are often dramatic; and those whose occupation it is to tell them, sometimes display so extraordinary a skill, and such varied powers, that we can hardly believe, while we look on their altered countenances and listen to their changed tones, that it is the same person, who at one moment tells a plain narrative in his natural voice, then speaks in the hoarse and angry tone of offended authority, and next subdues the passions he has excited by the softest sounds of feminine tenderness. The art of relating stories is attended both with profit and reputation. Great numbers attempt it, but few succeed.

The story-teller is always in attendance upon his majesty. It is equally his duty to beguile the fatigue of a long march, and to sooth the mind when disturbed by the toils of public affairs; and his tales are artfully made to suit the disposition and momentary humour of the monarch. Sometimes he recites a story of the geni; at others, he recounts the warlike deeds of former sovereigns, or the love of some wandering prince.

Mr. Buckingham relates that he saw in the streets of Ispahan a little boy who was singing, with the notes of the lark, in the clearest and most delightful strain. His voice was one of the most melodious that the fastidious ear could desire; but the thrill of it, which charmed at a distance, was produced by quick and violent thrusts of the end of the

fore-finger against the windpipe; while, from the length of time which some of these notes were held, the boy's face was swollen to redness; every vein of his throat seemed ready to burst; and his fine black eyes, which were swimming in lustre, appeared as if about to start from their blood-stained sockets. Yet, with all this, no one could wish to interrupt such charming music.

CHINESE DINNERS.

A FESTIVAL given at Canton by one of the Hong merchants, or, as he is more generally termed, "the squire," to a select party of English, is thus described by one of the party.

We sat down in number about fifteen. First, was handed to us bird's-nest soup in small china-ware cups. There were about twenty courses, and dishes innumerable. I counted sixty on the table at one time: they consisted chiefly of small basins, or cups, of the most beautiful china-ware, and were arranged in three rows down the centre of the table. We were told we had the happiness to partake of stewed pigeon's eggs, wild cat, fricassied frogs, dried worms, (particularly recommended as a *bonne bouche* for wine at dessert,) sea slugs, shark's fins, and other delicacies, which, whatever they may really have been, were rendered extremely palatable by the application of a little Japan soy. All the meat, pheasants, partridge, and venison were minced, and served to us in small cups, which, considering that we had no knives or forks, but simply a brace of round smooth and slippery chopsticks, made of ivory, tipped with silver, was extremely embarrassing. All their dishes are remarkably rich; so much so, that it is requisite to drink with them salehing, a kind of wine, or rather spirit of white colour, and not unpleasant taste; the little cup out of which it is drunk, is about the size of one belonging to a doll's tea-service; the ceremony of drinking health is to take up the cup with both hands, bow, and shake heads at each other for some time, drink off the wine, and show your friend the bottom of the cup to convince him that it is empty.

Another grand dinner, with a sing-song, or play, is thus described by the same writer. The place in which it was given, was an immense hall, one end of which was occupied by the stage, and the other with the dinner tables. The sing-song commenced directly we sat down, and continued till we came away. The play opened with the music of cymbals, gongs, bells, trumpets, &c. The performance was a kind of historical pantomime: for the first hour it was one continued battle of various success. The warriors were very splendidly apparelled, and some were decorated with little flags; they were armed with shields, bows, battle-axes, &c. These heroes rushed to the combat with a rotatory motion, like our modern rockets, and went whizzing round and round with great velocity, brandishing their weapons in every direction, and yet contriving to pass without touching each other. The subject of the pantomime appeared to be the setting up, crowning, and pulling down, and killing of emperors. The next exhibition was a kind of comedy, or farce, in which the characters and scenes were more modern and intelligible. Between the acts, tumbling was introduced. There was one very singular feat: they placed a table in the middle of the stage, and the whole troop, to the number of between twenty and thirty, threw themselves over it head foremost, one after another as fast as possible, and sometimes three and four plunging over at the same time. Another feat was the formation of a human pyramid, the men standing upon one another's shoulders; which when complete, whirled round with wonderful rapidity.

Tea-drinking in China materially differs from the custom of this country. Green tea is thought very highly of by the Chinese, and is but rarely drank. "Indeed," says the writer just quoted, "during the whole time I was in China, I never once tasted green tea, black being the only kind drunk by the Europeans as well as the Chinese. The latter are eternally drinking tea: in every shop there are always some small tea-cups on the counter; they put the tea-leaves at the bottom of the cup, pour hot water on them, put a cover over, and let it stand till ready; they never add milk, and seldom sugar."

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